

Dept. of Immunology, Faculty of Biochemistry, Biophysics & Biotechnology.



Jagiellonian University in Krakow



NATIONAL SCIENCE CENTRE
POLAND

UMO-2019/35/B/NZ6/03357

POST-DOCTORAL FELLOWSHIP to study interactions between keratinocytes, the immune system and the nervous system in the context of chronic pruritus:

Project summary: Skin is a major barrier organ that is exposed to a wide variety of insults, including microbial infection and noxious environmental stimuli. In this project we will focus on three skin components; keratinocyte-dominated epidermis, and two major sensory interfaces between the skin and external environment-the immune and nervous systems, to better understand how interactions between these cutaneous compartments manifest in chronic itch. By sensing itch that evokes the desire to scratch, organisms can rapidly remove parasites, pollutants and other threats. However, in contrast to this protective itch responses, chronic pruritus defined as symptoms of itch lasting longer than six weeks, is pathologic condition. Given the highly debilitating nature of chronic itch, and its high and rising prevalence, elucidation of the primary pathogenic mechanism(s) responsible for this condition is of great clinical importance. Focusing predominantly on three itch-associated pathologies, CIP (chronic idiopathic pruritus), AD (atopic dermatitis) and dry skin, in this project we will investigate previously uncharacterized mechanisms underlying chronic itch that engage keratinocytes, immune cells and neurons.

Candidate requirements: we are seeking an enthusiastic scientist with passion for pathophysiology of nervous system, immune system and/or barrier organs, and implications of the cross-talk between the immune and nervous systems on homeostasis and disease onset and progression.

- PhD, MD in neurobiology, cell biology, immunology, biochemistry or related areas;
- Previous experience in inflammation/neurodegeneration-related animal models, and/or isolation/culture/functional activity of nervous cells is highly desirable.
- Expertise in; immunohistochemistry, confocal microscopy, bioinformatics (exploring large datasets), cell isolation and culture (keratinocytes, immune cells), biochemical assays (immunoprecipitation, ELISA, Western Blot), and/or molecular biology (qPCR, transfection and CRISR/Cas9 gene editing) will be an asset.
- Creativity, and ability to independently determine study design, execute protocols, analyze and interpret data from *in vitro* and *in vivo* studies, and solve problems.
- Proficient communication (verbal and written) skills in English.

The work will be undertaken at Dept. of Immunology, Faculty of Biochemistry, Biophysics & Biotechnology, Jagiellonian University in Krakow. https://wbbib.uj.edu.pl/en_GB/wydzial/zaklady-i-pracownie/zaklad-immunologii (PI Joanna Cichy)

The candidate is expected to start in November 2022 with a 24-month contract. Interested candidates are encouraged to submit a motivation letter, a complete CV and two reference letters (as one PDF file Ref IMM2022/PostDoc/last name of the candidate) to Joanna.Cichy@uj.edu.pl Application closes on September 30th and selected candidates will be called for an interview in October.